

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau(43) International Publication Date
6 January 2005 (06.01.2005)

PCT

(10) International Publication Number
WO 2005/001510 A1(51) International Patent Classification?: **G01S 15/89,**
G10K 11/34, A61B 8/14(21) International Application Number:
PCT/IB2004/051016

(22) International Filing Date: 26 June 2004 (26.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/483,797 30 June 2003 (30.06.2003) US(71) Applicant (for all designated States except US): KONIN-
KLJKE PHILIPS ELECTRONICS, N.V. [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

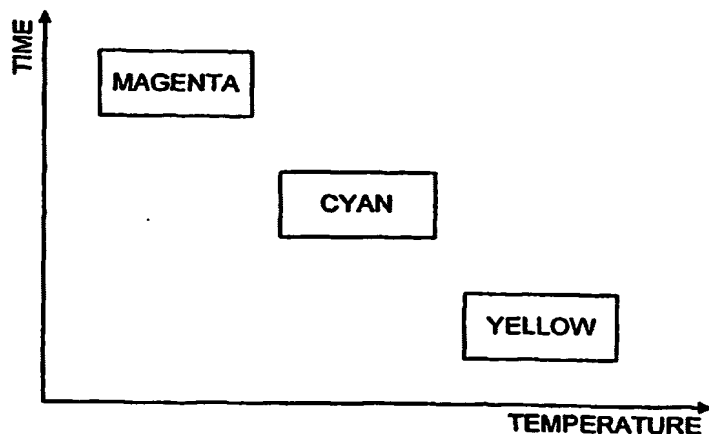
(72) Inventor; and

(75) Inventor/Applicant (for US only): SUDOL, Wo-
jtek [US/US]; P.O. Box 3001, Briarcliff Manor, NY
10510-8001 (US).(74) Common Representative: KONINKLIJKE PHILIPS
ELECTRONICS, N.V.; c/o John Vodopia, P.O. Box 3001,
Briarcliff Manor, NY 10510-8001 (US).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii)) for the following designations AE,
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,
EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM,
ZW, ARIPO patents (BW, GH, GM, KE, LS, MW, MZ, NA,
SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE,
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
SN, TD, TG)

[Continued on next page]

(54) Title: TWO-DIMENSIONAL TRANSDUCER ARRAYS WITH BEAM CONTROLLING FOR IMPROVED FIELD OF
VIEW(57) Abstract: A method and system
for using two-dimensional transducer
arrays for improving the field of view
during an ultrasonic examination are
disclosed. The ultrasonic imaging system
includes a two-dimensional transducer
array (210) with a plurality of acoustic
elements (212), a beam controller (240),
a signal processor (250), and a display
(260). The beam controller controls a
generated acoustic beam (230) capable of
being advanced longitudinally or laterally
along the two-dimensional transducer
array. Additionally, the generated acoustic
beam is capable of being phase-shifted
by the beam controller. Combining the
phase shifting of and advancement of the
acoustic beam increases the field of view
of the two-dimensional array.